

Appln No. 10/822,134
Amdt date December 19, 2005
Reply to Office action of September 21, 2005

REMARKS/ARGUMENTS

The above identified patent application has been amended and reconsideration and reexamination are hereby requested.

In response to the Office Action dated September 21, 2005, claims 1-25 remain in the application. Claims 4-5 have been amended.

The Examiner has objected to the title of the invention as not being descriptive and has suggested a new title. The Applicants respectfully traverse this rejection, but in order to expedite prosecution of the application, have amended the title as suggested by the Examiner.

The Examiner has objected to the term "Transparent" on page 9, line 13 as being misspelled. The Applicants have corrected this misspelling.

The Examiner rejected Claim 4 indicating that the term "thickness" was not descriptive. The Examiner stated that term could mean any of three dimensional lengths of the reinforcing barrier ribs. For examining purpose, the Examiner assumed the term "thickness" to be the length of the reinforcing barrier rib in the direction perpendicular to the substrate. The Applicants respectfully traverse this rejection, but in order to expedite prosecution of the application, have amended the claim for clarification to overcome the rejection.

The Examiner rejected Claim 5 indicating that the term "width" was not descriptive. The Examiner stated that term could mean any of three dimensional lengths of the reinforcing barrier ribs. For examining purpose, the Examiner assumed the term "width" to be the length of the reinforcing barrier rib in the direction from inside to outside of the display area. The Applicants respectfully traverse this rejection, but in order to expedite prosecution of the application, have amended the claim for clarification to overcome the rejection.

The Examiner has rejected Claims 1-7, 12-14, and 24-25 under 35 U.S.C. §103 as being unpatentable over Betsui (US 6,242,859) in view of Zhang (US 6,867,546).

Applicants' Claim 1 calls for (underlining added for emphasis) ... A plasma display panel comprising: a first substrate and a second substrate spaced apart from each other at a distance and proceeding substantially parallel to each other, the first substrate and the second substrate

Appln No. 10/822,134
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having a display area and a non-display area; a plurality of address electrodes formed on the first substrate and covered by a dielectric layer; main barrier ribs arranged between the substrates to form discharge cells; phosphor layer formed within the discharge cells; a plurality of discharge sustain electrodes formed on the surface of the second substrate facing the first substrate and covered by a dielectric layer; and reinforcing barrier ribs arranged at the non-display area while surrounding the display area, and connected to the main barrier ribs with an outer structure curved toward the outside of the substrates.

Applicants' Claim 12 calls for (underlining added for emphasis) ... A plasma display panel comprising: a first substrate and a second substrate facing each other; address electrodes formed on the first substrate; main barrier ribs arranged between the first substrate and the second substrate within a display area to form discharge cells; phosphor layer formed at the respective discharge cells; a plurality of discharge sustain electrodes formed on the second substrate; and dummy barrier ribs arranged at a non-display region sided with at least one end portion of the display area; wherein the dummy barrier ribs comprise main dummy barrier ribs spaced apart from the end portions of the main barrier ribs at a distance while proceeding in a direction of the display area, and interconnection dummy barrier ribs extended from the main dummy barrier ribs toward the main barrier ribs with a curvature and connected to the main barrier ribs.

The Applicants submit that the invention as claimed in Claim 1 and 12 are neither taught, described or suggested in Betsui, even in view of Zhang.

Betsui, while providing for a plasma panel display and method of manufacturing, merely discloses the use of a spacer as shown in FIG. 19, and according to the following text:

A glass bead 48 of even diameter are used for the spacer. Glass beads are often used as a spacer between the substrates in liquid-crystal display panels. In this example, glass beads 48 having a diameter similar to the thickness of the ribs 23 are mixed into a low-melting-point glass paste, and this mixture is coated onto the perimeter region of the rear-side glass substrate 20. The low-melting-point glass paste 25 is annealed to a high temperature in the region of the melting point of the glass paste. Consequently, in the annealing process, it is possible to prevent stress from being applied to the perimeter region of the micro-sheet 30. In this case,

Appn No. 10/822,134
Amdt date December 19, 2005
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using epoxy resin as sealing material, the sealing can be carried out by means of a low-temperature process. See *Betsui at Column 16, lines 4-17.*

Zhang, while providing for a plasma panel display, merely discloses using a conductive mesh plate sandwiched between a front and rear plate for supporting them as shown in FIG. 1, and according to the following text:

The plasma display panel of present invention comprises a front plate, a rear plate and a conductive mesh plate sandwiched between said front plate and said rear plate for supporting them. Said mesh plate includes an array of meshes which, together with the addressing electrode on said rear plate and the scanning electrode on said front plate, form the discharge cell of the display panel. Said mesh plate has gas conductive grooves on its surface in the region between adjacent meshes. See *Zhang at Abstract, lines 1-7.*

Therefore, the Applicants submit that there is no suggestion to combine the references and result in the invention as claimed and, in particular, a plasma display panel comprising (underlining added for emphasis) ... reinforcing barrier ribs arranged at the non-display area while surrounding the display area, and connected to the main barrier ribs with an outer structure curved toward the outside of the substrates.

The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reinforcing barrier rib connected to the main barrier rib disclosed by Zhang in the plasma display panel disclosed by Betsui, for the purpose of providing high rate of finished products and low manufacturing cost. See *Office Action at page 5, lines 3-6.* To the contrary, after combining the Betsui reference with the Zhang reference, the Applicants submit that the present invention is still not suggested.

The Examiner admits that Betsui does not disclose the reinforcing barrier rib connected to the main barrier ribs. See *Office Action at Page 4, lines 18-19.* However, the Applicants believe that the Examiner has incorrectly relied upon Zhang to connect the reinforcing barrier rib to the main barrier rib. The spacer of glass bead disclosed in Betsui cannot be connected to the main barrier ribs as the Examiner suggests. The glass bead is of a different material than the main barrier ribs. Betsui teaches annealing the glass bead to a protective layer 15 of MgO and a rear-side glass layer 20 with the use of a glass paste. See *Betsui at Fig. 19 and at Column 14,*

Appln No. 10/822,134
Amdt date December 19, 2005
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lines 44-57. Annealing a glass bead with glass paste to a protective layer of MgO and to a glass layer is not analogous to connecting reinforcing barrier ribs with the main barrier ribs. Therefore, the annealing process of Betsui cannot be combined with Zhang to ever suggest the Applicants' invention.

Furthermore, the Applicants submit that the purpose for combining the Betsui and Zhang reference as argued by Examiner is inconsistent with the purpose of the Applicants' invention. The Examiner states (underlining added for emphasis) that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the reinforcing barrier rib connected to the main barrier rib disclosed by Zhang in the plasma display panel disclosed by Betsui, for the purpose of providing high rate of finished products and low manufacturing cost. However, the Applicants' invention was not directed at providing a high rate of finished products and low manufacturing cost. The Applicants' invention addresses excessive external loading reaching the PDP, and particularly the barrier ribs mounted within the PDP, so that the substrates or the barrier ribs are not broken or ruptured. See the present Application at page 2, lines 6-15. It was never taught nor suggested in either the Betsui reference nor the Zhang reference to connect the reinforcing barrier ribs with the main barrier ribs for the purpose of preventing ruptures.

In addition, the Examiner has argued that the outside ribs of the mesh structure of Zhang corresponded to the reinforcing barrier ribs of the claimed invention. However, the discharge cells cannot be defined if it were not for the outside ribs of the mesh structure of Zhang. Further, the outside ribs of the mesh structure of Zhang do not reinforce the main barrier ribs (i.e., inside ribs of Zhang) in structural strength as do the reinforcing barrier ribs of the claimed invention. Therefore, the outside ribs of the mesh structure of Zhang play a role in defining the discharge cells and correspond to the main barrier ribs of the claimed invention. In other words, the outside ribs of the mesh structure of Zhang are functionally and structurally different from the reinforcing barrier ribs of the claimed invention, and Zhang does not disclose or suggest the reinforcing barrier ribs of the claimed invention.

Appn No. 10/822,134
Amdt date December 19, 2005
Reply to Office action of September 21, 2005

Accordingly, the Applicants submit that there is no suggestion to combine the references as indicated by the Examiner and, therefore, Claim 1 and 12 are not unpatentable over Betsui in view of Zhang.

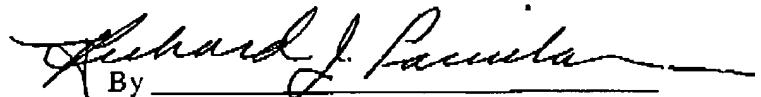
Claims 2-11 are dependent on claim 1, and claims 13-25 are dependent of claim 12. As such, these dependent claims are believed allowable based upon the independent claims.

In pages 10-12 of the Office Action, claims 8-11 and 15-23 were objected to as being dependent upon a rejected base claim, but would otherwise be allowable if written in independent form including all of the limitations of the base claim and any intervening claims. The Applicants thanks the Examiner and formally recognizes the allowable subject matter of claims 8-11 and 15-23.

Accordingly, in view of the above amendment and remarks it is submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested.

Respectfully submitted,

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